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GAVILAN WATER CONSERVATION DISTRICT

ANNUAL INVESTIGATION AND REPORT OF GROUNDWATER CONDITIONS

March 8, 1983

The Gavilan Water Conservation District, in accordance with Section 75560 of the California Water Code, submits the annual report on groundwater conditions. In conformance with the California Water Code, Section 75561, the report includes information on the total production of water from the groundwater supplies for the preceding year (1981-82); information for the determination of the accumulated overdraft of the preceding water year; information on and an estimate of the annual overdraft of the current water year (1982-1983) and the ensuing water year (1983-1984); and other information pertinent to the District's management of the groundwater basin.

The preceding water year (July, 1981 to June, 1982) witnessed above average precipitation, abundant runoff, and a surcharged water basin. Rainfall at Uvas and Chesbro reservoirs measured 49.50 and 42.38 inches (respectively). Releases from Chesbro Reservoir and the Uvas/Llagas transfer line for percolation in the Llagas Creek and the Church Avenue Percolation Ponds amounted to 4,860.63 acre feet. Releases to Uvas Creek from Uvas Reservoir for groundwater recharge and maintenance of the steelhead nursery (in accordance with the Fish and Game agreement of 1958) amounted to 5,582.59 acre feet. Total releases for recharge purposes amounted to 10,443.22 acre feet.

As a result of artificial and natural recharge[1], the highest average monthly depth to groundwater was 25.85 feet, and the average

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[1] Natural replenishment occurs from surface water penetrating into the aquifers from all natural sources while artificial recharge into channels and ponds is a district operation.

annual depth to groundwater was 48.23 feet. Despite a net average fluctuation of -1.33 feet in the depth to groundwater as compared to 1980-1981,[2] intermittent artesian activity was again recorded in the southern portion of the district, an annual event during normal years.

The combined effect of bountiful rainfall, decreased water use, and the District's recharge practices insured a hydrologic balance for the preceding water year. The total groundwater extractions as calculated from the groundwater income for the preceding water year were 29,634.83 acre feet. Of the total groundwater extractions, approximately 21,503.27 acre feet were used by agriculture and 8,131.56 acre feet were used for municipal and industrial purposes. Total water use in the preceding water year was reduced by 33% as compared to water use in 1980-1981, because of the extent and duration of rainfall and natural and artificial recharge. The drought-induced accumulated overdraft, which was overcome in 1980-1981 was no longer a factor. High precipitation, reduced water use, and prudent water management practices insured that water extractions did not exceed the water supply.

Since the basin was primed from the preceding water year and the Chesbro and Uvas Reservoirs had carry-over storage totaling 9,674 acre feet in November, 1982, the outlook for the current water year (1982-1983) is excellent. Water data from July, 1982 to March, 1983 of the current water year shows 36.89 and 42.08 inches of rain recorded at the Chesbro and Uvas reservoirs. Both reservoirs in the district have filled and spilled, but the Chesbro Reservoir has been drawn down to maintain flood storage space. While storage in the Chesbro has been deliberately reduced, runoff from later storms should insure maximum storage for the percolation season. Average depth to groundwater, as measured in March of the current water year, shows the present depth of 20.66 feet has surpassed the highest recorded level from the preceding water year. (See attached graph of average groundwater levels.)

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[2] This minor fluctuation was probably due to a warmer summer than 1980-1981 and increased pumping which drew the basin down to an average monthly depth of 66.90, 12.40 feet lower than the lowest depth of 1980-1981.

From a review of recent data, it is evident that the basin is in a state of hydrologic balance and that sufficient water supplies are available for replenishment. Hence, the district, at the middle of the current water year is already in a position to avoid an annual overdraft in the ensuing year of 1983-1984. Indeed, the abnormally high average depth to groundwater and the anticipated maximum storage in the reservoirs indicate that the basin could probably sustain two years of below normal rainfall with little, if any, ill effects.

The heavy rainfall of the preceding and the current water years has encouraged the District to continue its ongoing practice of releasing waters for flood control. While the reservoirs constitute the most apparent flood protection on Llagas and Uvas Creeks, the District has chosen to supplement this protection by maintaining the available flood storage in the Chesbro Reservoir and adjusting the operation of the Uvas Reservoir. In the preceding water year, flood control releases from the Chesbro Reservoir totaled 5,669.63 acre feet, while in the current year (through February) flood control releases have amounted to 18,201.76 acre feet. At Uvas Reservoir the District has recently gained the ability to make maximum possible releases by removing the meter from the outlet structure. While releases at the new maximum rate of 300 acre feet per day are not large enough to surpass inflow from most storms in the Uvas watershed, nevertheless, it gives the District greater flexibility in regulating storage prior to heavy rains and a saturated watershed.

In addition to daily management, the District must continue to plan for the future. While present water levels in the underground basin indicate that current water storage is adequate for the area's needs, increased population and industrialization may eventually result in a water deficit. In order to address these future concerns, the District commissioned William G. Dunn to update the District's previous investigations on supplemental water requirements. The District received Mr. Dunn's final report in November 1982, and its findings are now a source for the District's future deliberations.

While the District must continue to plan for its future water needs, it must also protect the quality of its present water supplies. In order to accomplish this goal, the District has continued to sample surface water in order to insure its integrity.

In order to establish reliable data on groundwater constituents and groundwater quality, the Board of Directors commissioned Darrel Kelly of Terra Sol Ltd. to propose a comprehensive water quality monitoring plan which would serve to monitor and protect the groundwater supplies of the Llagas-Uvas basin. This plan which includes provisions for a network of water quality monitoring wells and a cooperative community planning and legislative effort has received widespread community support, and it has been submitted to the State Water Resources Control Board for consideration for funding under the 205(j) Program. Regardless of the outcome of the competition for federal grant funds under the 205(j) Program, the District remains committed to the protection and monitoring of the underground water basin (the South County's chief source of water) and it will proceed with its program as funds are available.

The data from the preceding and current water years demonstrates that the Gavilan Water Conservation District is vigilently monitoring and managing the reservoirs and the underground water basin. A charged water basin, coupled with the District's progressive efforts to monitor and protect the integrity of the Llagas-Uvas basin ensure the District's users an ample water supply in the ensuing water year.